

IN THE CLAIMS:

Claim 1 (currently amended): An X-ray computer tomography apparatus having an X-ray radiation means comprising an X-ray generator and a two-dimensional X-ray image sensor,

wherein an X-ray beam is radiated on an object to be examined, while said X-ray generator and said X-ray image sensor [[moves]] move for X-ray circulating radiation ~~relative to each other with around~~ an object to be examined, with said object interposed therebetween, so as to hold their mutual facing positional relation, and

wherein a first X-ray tomography is executed for obtaining a curved plane tomography image or a flat plane tomography image, whereas wherein a second X-ray tomography is executed for obtaining a computed tomography image of an interested area of said object,

said X-ray computer tomography apparatus comprising:

an object holding means; and

an object moving means;

wherein said object moving means moves for executing said first X-ray tomography is executed in a manner that said object holding means which is moved by holding said object moving means during said X-ray circulation radiation depending on a rotary angle of X-ray circulating radiation ~~while holding said object by said object holding means during said X-ray circulating radiation, with [[the]] a center of [[the]] an orbit of said X-ray circulating radiation fixed.~~

Claim 2 (currently amended): An X-ray computer tomography apparatus having an X-ray radiation means comprising[[,]] an X-ray generator, a two-dimensional X-ray image sensor, and a circulating means for circulating said X-ray generator and said two-dimensional X-ray image sensor,

wherein a first X-ray tomography is executed for obtaining a curved plane tomography image or a flat plane tomography image in a manner such that said X-ray generator and said two-dimensional X-ray image sensor are moved ~~relative to each other with around~~ an object to be examined, with said object interposed therebetween, so as to hold their mutual facing positional relation, whereas wherein a second X-ray tomography is executed for obtaining a computed tomography image of an interested area of said object, said X-ray computer tomography apparatus comprising;

an object holding means for holding said object; and
an object moving means for moving said object holding means [[fixed]] depending on
[[the]] a rotary angle of [[said]] X-ray circulating radiation during said X-ray circulating radiation,
with [[the]] a center of [[the]] an orbit of said X-ray circulating radiation fixed, when executing
said first X-ray tomography of said object.

Claim 3 (currently amended): The X-ray computer tomography apparatus as set forth in
claim 1 or 2, wherein said X-ray computer tomography apparatus further ~~comprising~~ comprises an
image processing means for producing [[the]] an X-ray sectional image by executing Time Delay
Integration (TDI) ~~process~~ processing to [[the]] an X-ray transmitted image detected by said
two-dimensional X-ray image sensor in said first X-ray tomography, which is transmitted through
said object by radiating [[X-ray]] X-rays from said X-ray generator.

Claim 4 (currently amended): The X-ray computer tomography apparatus as set forth in
claim 1 or 2,

wherein said first X-ray tomography is executed for obtaining an X-ray sectional image
including a blurred image of [[the]] regions other than [[the]] a target sectional area ~~through~~
through a curved plane tomography or a flat plane tomography in a manner such that said X-ray
generator and said two-dimensional X-ray image sensor are moved ~~relative to each other with~~
around an object to be examined, with said object interposed therebetween, so as to hold their
mutual facing positional relation, and

wherein said second X-ray tomography is executed for
obtaining an X-ray sectional image ~~excluded~~ excluding a blurred image through [[a]] computed
tomography which computes and processes [[a]] three-dimensional X-ray absorption coefficient
data.

Claim 5 (currently amended): The X-ray computer tomography apparatus as set forth in
claim 1 or 2, wherein ~~relative~~ movement between of said X-ray generator and said
two-dimensional X-ray image sensor is a rotary movement or a parallel movement.

Claim 6 (currently amended): The X-ray computer tomography apparatus as set forth in

claim 1 or 2, wherein said second X-ray tomography is executed for obtaining an X-ray computed tomography image around a local region of said object in a manner such that the interested area of said object conforms to the rotary center of X-ray circulating radiation by moving said object holding means or said X-ray radiation means after said first X-ray tomography is finished.

Claim 7 (currently amended): The X-ray computer tomography apparatus as set forth in claim 1 or 2 comprising:

a display means on which [[said]] a first X-ray sectional image of said object taken by said first X-ray tomography is displayed, and an interested area selection means for selecting the interested area to be taken by said second X-ray tomography on said first X-ray sectional image displayed on said display means; and

a calculation means of rotary center position for calculating movement data for relatively moving said object holding means or said X-ray radiation means in a manner such that [[said]] an X-ray rotary center conforms to said interested area selected by said interested area selection means;

wherein said object holding means or said X-ray radiation means is moved depending on said movement data, and thereafter said X-ray radiation means is circulated with the center of the orbit of the X-ray circulating radiation fixedly conformed to said interested area during X-ray circulating radiation, thereby executing said second X-ray tomography.

Claim 8 (currently amended): The X-ray computer tomography apparatus as set forth in claim 1 or 2, wherein said object holding means has a chair for holding a patient in sitting position and a head fixing means at the upper part of the chair, and wherein said object holding means further has a pulse motor for moving said object in an axial direction of an X-ray rotary axis or in a vertical direction to the X-ray rotary axis.

Claim 9 (currently amended): The X-ray computer tomography apparatus as set forth in claim 8, wherein said X-ray radiation means has a rotary arm rotatable around the rotary center, said rotary arm [[holds]] holding said X-ray generator and said two-dimensional X-ray imaging sensor so as to keep their mutual facing positional relation, and

wherein said first X-ray tomography is executed for obtaining a curved plane sectional

image in a manner such that said rotary arm turns around the object with the center of the orbit of the X-ray circulating radiation fixed during [[its]] said first X-ray tomography, while said chair is moved along a predetermined imaging orbit in synchronism with the turning of said rotary arm.

Claim 10 (previously presented): The X-ray computer tomography apparatus as set forth in claim 1 or 2, wherein said first X-ray tomography is executed for obtaining a flat plane sectional image by mutually moving said X-ray generator and said two-dimensional X-ray image sensor held by a rotary arm in a direction opposite to each other, while turning said rotary arm around said object with said interested area interposed therebetween.

Claim 11 (currently amended): The X-ray computer tomography apparatus as set forth in claim 1 or 2, wherein said second X-ray tomography is executed for obtaining an X-ray computer tomography image of [[the]] a local region of said object by radiating conical X-ray beam from said X-ray generator.

Claim 12 (original): The X-ray computer tomography apparatus as set forth in claim 7, wherein a position guide index or an area guide index for selecting the interested area is shown on the first X-ray sectional image displayed on said display means and the interested area is selected by selecting operation of the position guide index or movement operation of said area guide index.

Claim 13 (currently amended): The X-ray computer tomography apparatus as set forth in claim 7, wherein said interested area selection means is constructed so as to be able to display a diagram of [[the]] an imaging region corresponding to the first X-ray sectional image and [[said]] an interested area index movable on the diagram displayed on said display means, and wherein said interested area to be selected for [[said]] X-ray CT is constructed so as to be able to be specified by moving operation or selecting operation of said interested area index on the diagram shown.

Claim 14 (previously presented): The X-ray computer tomography apparatus as set forth in claim 1 or 2, wherein said two-dimensional X-ray imaging sensor is comprised of any one of CdTe, MOS, CCD, XII, XICCD, photo diode array, ~~or the like~~.

Claim 15 (currently amended): The X-ray computer tomography apparatus as set forth in claim 1 or 2, wherein [[the]] start and [[the]] termination angles of the X-ray circulating radiation are set in such an appropriate position or an angle [[as]] for a patient to easily come in and out of said object holding means corresponding to said first and said second X-ray tomography, respectively.

Claim 16 (currently amended): The X-ray computer tomography apparatus as set forth in claim 1 or 2, wherein an X-ray beam switching means is provided for switching [[the]] a shape of an X-ray beam radiated from said X-ray generator in the first X-ray tomography and [[the]] a shape of an X-ray beam radiated from said X-ray generator in the second X-ray tomography.

Claim 17 (currently amended): The X-ray computer tomography apparatus as set forth in claim 1 or 2, wherein said curved plane X-ray tomography is executed for obtaining a dental panoramic image or a curved sectional X-ray image for use in otolaryngology.

Claim 18 (currently amended): The X-ray computer tomography apparatus as set forth in claim 1 or 2, said X-ray computed tomography apparatus comprising:

a sectional image link means for subdividing in advance a second X-ray sectional image obtained by said second X-ray tomography into an assembly of X-ray sectional [[image]] images comprised of plural X-ray sectional images cut out at a fixed interval at least in one direction of [[the]] three dimensional directions and for linking each X-ray sectional image in said assembly of the X-ray sectional images as the second X-ray sectional image to the first X-ray sectional image obtained by said first X-ray tomography corresponding to [[the]] an imaging region;

an image recording means for storing together with each positional information said first X-ray sectional image and said second X-ray sectional image, each linked to the corresponding information; and

a corresponding image calling means for invoking the linked corresponding X-ray sectional image when at least one of said first X-ray sectional image and said second X-ray sectional image stored in said image recording means is read out and is shown on said display means.

Claim 19 (previously presented): The X-ray computer tomography apparatus as set forth in claim 18, wherein said second X-ray sectional image subdivided into the assembly of plural X-ray sectional images is capable of being sequentially reproduced and displayed at least in one direction of three dimensional directions by moving operation of a cursor on said display means, and wherein the linked corresponding X-ray sectional image is invoked from said corresponding image calling means when at least one of said first X-ray sectional image and said second X-ray sectional image stored in said image recording means is read out and shown on said display means.

Claim 20 (previously presented): The X-ray computer tomography apparatus as set forth in claim 18, wherein said first X-ray sectional image is a dental panoramic X-ray image.

Claim 21 (previously presented): The X-ray computer tomography apparatus as set forth in claim 18, wherein the X-ray sectional image corresponding to said first X-ray sectional image and/or the second X-ray sectional image are/is read out to be displayed on a part of said display means, when at least one of the first X-ray sectional image and the second X-ray sectional image stored in said image recording means is read out and displayed on said display means.

Claim 22 (currently amended): The X-ray computer tomography apparatus as set forth in claim 1 or 2, wherein said object holding means is movable in an axial direction of [[said]] the X-ray rotary axis as well as in a vertical direction to [[said]] the X-ray rotary axis.